

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 058653/03521	<b>FOR FURTHER ACTION</b> see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/US2007/076751	International filing date (day/month/year) 24/08/2007	(Earliest) Priority Date (day/month/year) 25/08/2006
Applicant  SUN CHEMICAL CORPORATION		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

## 1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of:

- ☒ the international application in the language in which it was filed  
☐ a translation of the international application into \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1(b))

b. ☐ This international search report has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43.6b/s(a)).

c. ☐ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☐ **Certain claims were found unsearchable** (See Box No. II)

3. ☐ **Unity of invention is lacking** (see Box No. III)

4. With regard to the **title**,

- ☒ the text is approved as submitted by the applicant  
☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

- ☒ the text is approved as submitted by the applicant  
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. \_\_\_\_\_  
☐ as suggested by the applicant  
☐ as selected by this Authority, because the applicant failed to suggest a figure  
☐ as selected by this Authority, because this figure better characterizes the invention  
b. ☐ none of the figures is to be published with the abstract

A. CLASSIFICATION OF SUBJECT MATTER  
INV. C09D11/02 C09D11/06

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
C09D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2005/042655 A (HRD CORP [US]) 12 May 2005 (2005-05-12) page 2, line 3 - line 15; claims; examples; tables 1,2	1-22
X	US 2005/131103 A1 (HASSAN AZIZ [US] ET AL) 16 June 2005 (2005-06-16) paragraph [0038] - paragraph [0046]; examples; tables 1,2	1-22
X	WO 2005/090498 A (SUN CHEMICAL CORP [US]; PULINA TILLMAN [DE]; FALKENBERG WOLFRAM [DE]) 29 September 2005 (2005-09-29) page 4, line 3 - line 7; claims 16-18; examples	1-22

☒ Further documents are listed in the continuation of Box C.

☒ See patent family annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

\*Z\* document member of the same patent family

Date of the actual completion of the international search

28 November 2007

Date of mailing of the international search report

06/12/2007

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Schmitz, Volker

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 627 876 A (FRIES WERNER [DE] ET AL) 9 December 1986 (1986-12-09) examples	1-22
X	US 5 507 864 A (JAEGER C WAYNE [US] ET AL) 16 April 1996 (1996-04-16) column 5, line 55 - line 65; examples	1-22
X	DE 21 18 785 A1 (HEBENBROCK, BERND) 19 October 1972 (1972-10-19) the whole document	1-22
X	JP 2003 064284 A (KOYO KAGAKU KOGYO KK) 5 March 2003 (2003-03-05) abstract	1-22

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
WO 2005042655	A	12-05-2005	CA 2542876 A1	12-05-2005
			DE 602004005746 T2	16-08-2007
			EP 1687382 A2	09-08-2006
			JP 2007510017 T	19-04-2007
US 2005131103	A1	16-06-2005	NONE	
WO 2005090498	A	29-09-2005	BR PI0508150 A	31-07-2007
			CA 2559314 A1	29-09-2005
			EP 1732995 A1	20-12-2006
			GB 2411900 A	14-09-2005
US 4627876	A	09-12-1986	BR 8306426 A	26-06-1984
			DE 3243532 A1	30-05-1984
			EP 0112465 A1	04-07-1984
			JP 1711171 C	11-11-1992
			JP 3080183 B	24-12-1991
			JP 59105065 A	18-06-1984
			ZA 8308345 A	25-07-1984
US 5507864	A	16-04-1996	NONE	
DE 2118785	A1	19-10-1972	NONE	
JP 2003064284	A	05-03-2003	NONE	

From the  
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

# PCT

## WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing  
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference  
see form PCT/ISA/220

**FOR FURTHER ACTION**  
See paragraph 2 below

International application No.  
PCT/US2007/076751

International filing date (day/month/year)  
24.08.2007

Priority date (day/month/year)  
25.08.2006

International Patent Classification (IPC) or both national classification and IPC  
INV. C09D11/02 C09D11/06

Applicant  
SUN CHEMICAL CORPORATION

**1. This opinion contains indications relating to the following items:**

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

**2. FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

**3. For further details, see notes to Form PCT/ISA/220.**

Name and mailing address of the ISA:



European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Date of completion of  
this opinion

see form  
PCT/ISA/210

Authorized Officer

Schmitz, Volker

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2007/076751

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**Box No. I Basis of the opinion**

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1. With regard to the **language**, this opinion has been established on the basis of:
  - ☒ the international application in the language in which it was filed
  - ☐ a translation of the international application into , which is the language of a translation furnished for the purposes of international search (Rules 12.3(a) and 23.1 (b)).
2. ☐ This opinion has been established taking into account the **rectification of an obvious mistake** authorized by or notified to this Authority under Rule 91 (Rule 43bis.1(a))
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material:
    - ☐ a sequence listing
    - ☐ table(s) related to the sequence listing
  - b. format of material:
    - ☐ on paper
    - ☐ in electronic form
  - c. time of filing/furnishing:
    - ☐ contained in the international application as filed.
    - ☐ filed together with the international application in electronic form.
    - ☐ furnished subsequently to this Authority for the purposes of search.
4. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
5. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/US2007/076751

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**Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes: Claims	
	No: Claims	<u>1-22</u>
Inventive step (IS)	Yes: Claims	
	No: Claims	<u>1-22</u>
Industrial applicability (IA)	Yes: Claims	<u>1-22</u>
	No: Claims	

**2. Citations and explanations**

see separate sheet

**Re Item V**

**Reasoned statement with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: WO 2005/042655 A (HRD CORP [US]) 12 May 2005 (2005-05-12)
- D2: US 2005/131103 A1 (HASSAN AZIZ [US] ET AL) 16 June 2005 (2005-06-16)
- D3: WO 2005/090498 A (SUN CHEMICAL CORP [US]; PULINA TILLMAN [DE];  
FALKENBERG WOLFRAM [DE]) 29 September 2005 (2005-09-29)
- D4: US-A-4 627 876 (FRIES WERNER [DE] ET AL) 9 December 1986 (1986-12-09)
- D5: US-A-5 507 864 (JAEGER C WAYNE [US] ET AL) 16 April 1996 (1996-04-16)
- D6: DE 21 18 785 A1 (HEBENBROCK, BERND) 19 October 1972 (1972-10-19)
- D7: JP 2003 064284 A (KOYO KAGAKU KOGYO KK) 5 March 2003 (2003-03-05)

**1. Article 33(2) PCT**

- 1.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1-22 is not new in the sense of Article 33(2) PCT.
- 1.2 Claim 1 discloses an offset printing varnish comprising a solvent characterized in that the solvent comprises at least one triglyceride with saturated monocarboxylic acid moieties.  
Such a varnish is anticipated by D1 (eg. pg. 2 ln. 3-15, ta. 1-2, examples and claims), D2 (eg. par. [0038]-[0046], tab. 1-2 and examples), D3 (eg. pg. 4 ln. 3-7, examples and claims 16-18), D4 (eg. examples), D5 (eg. col. 5 ln. 55-65 and examples), D6 and the abstract of D7.  
Therefore the subject matter of claim 1 lacks novelty.
- 1.3 Claim 12 discloses an offset printing ink comprising a solvent characterized in that the solvent comprises at least one triglyceride with saturated monocarboxylic acid moieties.  
Such a varnish is anticipated by D1 (eg. pg. 2 ln. 3-15, ta. 1-2, examples and claims), D2 (eg. par. [0038]-[0046], tab. 1-2 and examples), D3 (eg. pg. 4 ln. 3-7, examples and claims 16-18), D4 (eg. examples), D5 (eg. col. 5 ln. 55-65 and examples), D6



and the abstract of D7.

Therefore the subject matter of claim 12 lacks novelty.

- 1.4 The same reasoning applies, mutatis mutandis, to the subject-matter of the corresponding independent claims 2, 13 21 and 22 and dependent claims 3-11 and 14-20, which therefore are also considered not new.

**2. Article 33(3) PCT**

- 2.1 Since the subject matter of the claims 1-22 is anticipated by D1-D7 (see above) it is, therefore, not regarded as involving an inventive step (Article 33(3) PCT).

**3. Industrial Applicability**

- 3.1 The subject matter of claims 1-22 is industrial applicable.

Possible steps after receipt of the international search report (ISR) and written opinion of the International Searching Authority (WO-ISA)

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General information

For all international applications filed on or after 01/01/2004 the competent ISA will establish an ISR. It is accompanied by the WO-ISA. Unlike the former written opinion of the IPEA (Rule 66.2 PCT), the WO-ISA is not meant to be responded to, but to be taken into consideration for further procedural steps. This document explains about the possibilities.

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Amending claims under Art. 19 PCT

Within 2 months after the date of mailing of the ISR and the WO-ISA the applicant may file amended claims under Art. 19 PCT directly with the International Bureau of WIPO. The PCT reform of 2004 did not change this procedure. For further information please see Rule 46 PCT as well as form PCT/ISA/220 and the corresponding Notes to form PCT/ISA/220.

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Filing a demand for international preliminary examination

In principle, the WO-ISA will be considered as the written opinion of the IPEA. This should, in many cases, make it unnecessary to file a demand for international preliminary examination. If the applicant nevertheless wishes to file a demand this must be done before expiry of 3 months after the date of mailing of the ISR/ WO-ISA or 22 months after priority date, whichever expires later (Rule 54bis PCT). Amendments under Art. 34 PCT can be filed with the IPEA as before, normally at the same time as filing the demand (Rule 66.1 (b) PCT).

If a demand for international preliminary examination is filed and no comments/amendments have been received the WO-ISA will be transformed by the IPEA into an IPRP (International Preliminary Report on Patentability) which would merely reflect the content of the WO-ISA. The demand can still be withdrawn (Art. 37 PCT).

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Filing informal comments

After receipt of the ISR/WO-ISA the applicant may file informal comments on the WO-ISA directly with the International Bureau of WIPO. These will be communicated to the designated Offices together with the IPRP (International Preliminary Report on Patentability) at 30 months from the priority date. Please also refer to the next box.

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End of the international phase

At the end of the international phase the International Bureau of WIPO will transform the WO-ISA or, if a demand was filed, the written opinion of the IPEA into the IPRP, which will then be transmitted together with possible informal comments to the designated Offices. The IPRP replaces the former IPER (international preliminary examination report).

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Relevant PCT Rules and more information

Rule 43 PCT, Rule 43bis PCT, Rule 44 PCT, Rule 44bis PCT, PCT Newsletter 12/2003, OJ 11/2003, OJ 12/2003

## Patent Abstracts of Japan

PUBLICATION NUMBER : 2003064284  
PUBLICATION DATE : 05-03-03

APPLICATION DATE : 30-08-01  
APPLICATION NUMBER : 2001261585

APPLICANT : KOYO KAGAKU KOGYO KK;

INVENTOR : NAGAO TAKASHI;

INT.CL. : C09D 9/00 C11D 7/24 C11D 7/26 C11D 7/60 C11D 17/00

TITLE : COMPOSITION FOR PRINTING INK WASHING

ABSTRACT : PROBLEM TO BE SOLVED: To provide a composition for printing ink washing that has a superior solubility with an ultraviolet curing ink and, by washing, is able easily to remove an unnecessary ink after the completion of ultraviolet curing without giving any effect on a necessary image part on a machine plate, while that is capable of substantially reducing the resolution and swelling of the image part.

SOLUTION: The composition for printing ink washing contains a monoterpene hydrocarbon as an effective component.

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